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ABSTRACT

A study was conducted to determine the association between county Extension agent effectiveness in conducting a dairy educational program and agent knowledge in dairying and related subjects. A secondary purpose was to determine the association of agent effectiveness scores and knowledge scores with selected independent variables classified in four subgroups--agent background and training, agent interest and attitudes, county situation, and work-related factors. Data were collected from 41 agents. Effectiveness ratings were determined by supervisory personnel and dairy specialists. A multiple-choice test was used to measure dairying knowledge and related subject matter, and an interest and attitude scale gave other measures. Among the findings from the testing of hypotheses were: (1) effectiveness ratings and knowledge test scores were inversely related to tenure; (2) more effective agents spent more time on group and mass media teaching methods and made more contacts with dairymen; and (3) more effective agents involved dairy specialists more frequently in their dairy educational work. Multiple correlations analysis indicated the most accurate predictors of effectiveness ratings and agent test scores. (Author/KM)

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S. C. 804

A Research Summary of a Graduate Study

FACTORS ASSOCIATED WITH TENNESSEE COUNTY EXTENSION AGENT DAIRY EDUCATIONAL PROGRAM EFFECTIVENESS

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FACTORS ASSOCIATED WITH TENNESSEE COUNTY EXTENSION AGENT DAIRY EDUCATIONAL PROGRAM EFFECTIVENESS

by

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ABSTRACT

The major purpose of the study was to determine the association between county Extension agent effectiveness in conducting a dairy educational program and agent knowledge in dairying and related subject matter. A second major purpose was to determine the association of agent effectiveness scores and knowledge scores with selected independent variables classified in four subgroups, namely: (1) agent background and training, (2) agent interest and attitudes, (3) county situation, and (4) work-related factors.

The study was limited to county Extension personnel assigned primary responsibility for Extension dairy educational work in counties having $750,000 or more income from dairying and/or deriving at least 20 percent of the county agricultural income from this source. Also, agents selected must have attended a one-week intensive dairy inservice training program conducted in 1970. A total of 42 county Extension agents met the requirements and data were collected from 41 agents for use in the study.

The agents' effectiveness ratings were determined by supervisory and other people who were in positions to know the quality of the Extension dairy

*Date of completion of a Doctor of Education dissertation by Rural A. Peace on which this summary is based.

educational efforts planned and conducted by each agent. Each agent's effectiveness, then, was rated by a district supervisor, an associate district supervisor and, also, by at least three Extension dairy specialists. A high degree of agreement among the different judges was shown by the very high positive correlations (ranging from .61 to .80) between the scores assigned by each of the seven judges and the average scores for all other judges.

A multiple-choice test was used to get a measure of the agents' knowledge in dairying and related subject matter. The test was developed by Extension specialists and teaching staff in the Institute of Agriculture of The University of Tennessee, under the direction and guidance of the researcher. The knowledge test was pre-tested to determine reliability. Twenty-six county Extension agents were used to pre-test the instrument. Using the split-half procedure the reliability was established at .84. This was judged to be adequate for study purposes.

A rank order comparison technique was used to measure the agents' interest in dairying and their attitudes toward working with dairymen in their counties. The interest and attitude scale gave a measure of the agents' job satisfaction, self-confidence, perception of clientele receptiveness to Extension work, personal interest in dairying, and view regarding the importance of dairying in their counties.

Other data were taken from Extension files, college transcripts and from Tennessee Extension Management Information System (TEMIS) retrieval data.

Stepwise regression analysis was used with the data. The statistics involved were: (1) the coefficient of correlation, r (used to test null hypotheses), (2) the coefficient of multiple correlation, R, and (3) the

coefficient of multiple determination, R^2 (the last two being used to determine the correlation between each dependent variable and two or more independent variables at the same time. Limited use was made of crosstabulation analysis in an effort to show more clearly the nature of some of the above relationships.

Findings from the testing of hypotheses indicated that: (1) agents' effectiveness ratings and test scores on knowledge of dairying were inversely related to agents' tenure (both years in present position and years in Extension); (2) agents with higher effectiveness ratings tended to have higher knowledge scores on dairying and related subject matter; (3) more effective agents spent more time on group and mass media teaching methods and also made more contacts with dairymen in their counties than less effective agents; (4) more effective agents involved dairy specialists more frequently when carrying out conducting their county dairy educational work; (5) agents' effectiveness ratings were positively associated with the amount of time agents spent in the office; and (6) all other independent variables were not found to be associated at significant levels with either agent effectiveness ratings or test scores.

Findings from the multiple correlation analysis indicated that: (1) the most accurate predictors of agent effectiveness ratings were the number of years in present position (negatively), undergraduate grade point average, man-days devoted to dairy work with group and mass media methods, score on multiple-choice test and total number of men Extension workers assigned to the county; (2) the most accurate predictors of agent test scores were agent effectiveness ratings, the number of years in present position (negatively), income from dairying in the county and undergraduate grade point average.

Recommendations to administrators and supervisors for use of findings and for further research also were made.

RESEARCH SUMMARY

I. INTRODUCTION

County Extension workers compose the largest single group of staff members in the Cooperative Extension Service. Thus, it might be said, the success or failure of Extension depends primarily upon their effectiveness. The present research was undertaken with an eye to improving such effectiveness. It has been said that the responsibility for proper selection, orientation, training, and continued motivation of employees rests with the supervisor and that his ultimate goal is the development of an effective productive work force. The importance of this study rests with the implications it may provide for better understanding and improving supervisory efforts in the foregoing areas.

To determine why some staff members function effectively and others remain only marginally productive has challenged the skills and efforts of researchers and practitioners in the field of administration and supervision since the beginning of organizations. This study is a continuation of those endeavors, concentrating on determining agent effectiveness in the planning and conduct of the county Extension dairy program and agent knowledge in dairying and related subject matter and seeking to identify relationships of these variables to each other and to selected independent variables. The independent variables were classified into four sub-groups, namely: (1) background and training factors, (2) county situational factors, (3) interest and attitude factors, and (4) work related factors.

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[72] Amend, op. cit., p. 20.

II. SUMMARY OF METHODS AND PROCEDURES USED

Limitations of the Study

This study was based on data drawn from 41 county Extension agents assigned the primary responsibility for Extension dairy educational work in selected Tennessee counties. To be included in the study, the agent must have attended a week of intensive inservice training in dairying and related subject matter in the 1970 calendar year. In order to be eligible to attend the inservice training, the agent must have been assigned to a county having $750,000 or more income from dairying and/or deriving 20 percent or more of the county farm income from dairying in 1970.

Effectiveness Rating Used

The effectiveness ratings of agents were based on the judgment of qualified people. Each agent's effectiveness was rated by a District Supervisor, an Associate District Supervisor, and from three to five Extension Dairy Specialists who had had the opportunity to observe the agent in a variety of teaching situations with the dairy educational program in the county during the previous year.

All raters used the same rating scale or scorecard. The scorecard was divided into eight broad areas. Seven areas on the scorecard (including a total of 31 questions) dealt with agent responsibilities in the planning and conduct of Extension dairy work in the county and the other area on the scorecard (composed of nine questions) dealt with agent personality traits identified through previous research to have a relation to educational effectiveness.

Raters were brought together in groups for instruction on rating procedures. Assurance was given raters that their ratings would be kept confidential and would in no way help or hinder individual agents.

Development and Use of the Multiple-Choice Test

A comprehensive multiple-choice test (145 questions) was used to determine agent knowledge in dairying and related subject matter. This test was developed by Extension personnel and members of the teaching staff in the College of Agriculture, University of Tennessee. The objectives of the test and procedures for developing multiple-choice questions were provided in writing and discussed verbally with all those involved.

In addition to a critique of the test by a development and reading committee, a basic item analysis was made by tabulation of the responses that were given on each item in a pre-test administered to 26 county Extension agents. The 26 agents used represented the five Extension supervisory districts in the state. Information gained from the pre-test helped the researcher and the developing committee make further refinement of the test instrument.

Interest and Attitude Scale Used

The rank order comparison technique was used to measure agent interest in dairying and their attitude toward working with dairymen in the county. This scale gave a measure of the relative feeling of agents concerning Extension dairy work in the county when compared with other Extension work areas on five factors (job satisfaction, self-confidence, perception of

clientele receptiveness to Extension's assistance, personal interest, and importance of dairying in the county) selected as indicators of agents' interest and attitude.

Data Collection

Information regarding knowledge in dairying and related subject matter, together with data concerning the interest and attitudes of agents toward dairying were collected from the 41 agents included in the study. Agents were brought together in two approximately equal groups to complete the multiple-choice test and the interest and attitude scale. Data on the background and training of agents were taken from the file and college transcripts. Data on the county situation were taken from materials prepared by the Extension Agricultural Economics Department and the Extension Dairy Department. Data regarding man-days spent and contacts made were taken from TEMIS.

Analysis of Data Used

The statistical problem in this investigation was to determine the association of agents' effectiveness with the county Extension dairy program and agents' knowledge in dairying and related subjects with each other and with the independent var .bles. The 24 independent variables, classified under four headings included the following:

Background and training factors.

1. Highest degree earned
2. Undergraduate grade point average
3. Number of hours of undergraduate credit in dairying
4. Number of hours of graduate credit in dairying

5. Number of years of experience in Extension

6. Number of years of experience in present position

7. Number of man-days dairy specialists had spent in the county

County situational factors.

8. Percent of farm income in the county where assigned received from dairying

9. Number of dairy farms in the county

10. Income from dairying

11. Number of Grade A dairy farms in county

12. Number of men Extension agents assigned to the county

Interest and attitude factors.

13. Total score on interest and attitude scale

Work related factors.

14. Total man-days agents had devoted to dairy educational work

15. Man-days agents had devoted to individual contact methods with dairymen

16. Man-days devoted to group and mass media methods with dairymen

17. Total number of contacts made with dairymen

18. Number of individual contacts made by agents with dairymen

19. Number of group contacts made by agents with dairymen

20. Number of contacts per man-day devoted to dairy work

21. Total man-days worked by agent

22. Total man-days worked by agent out-of-office

23. Total man-days worked by agent in-office

24. Percent in-office time was of total time worked by the agent

The null hypotheses used in this study were that the relationships stated above were not significant at the .05 level. The coefficient of correlation (r) was used to test the association of each of the independent variables with each of the dependent variables listed above and also to test the relationship between effectiveness ratings and test scores.

Stepwise regression analysis was used with the data. The statistics involved were: (1) the coefficient of correlation, r (used to test the null hypotheses), (2) the coefficient of multiple correlation, R, and (3) the coefficient of multiple determination, R^2 (the last two were used to determine the correlation between the dependent variable and two or more independent variables simultaneously). Also, limited use was made of crosstabulation analysis to help show the exact nature of some of the above relationships.

III. SUMMARY OF FINDINGS

Findings were summarized under two main headings corresponding to the dependent variables of the study. The first section summarizes the findings regarding the association of agents' effectiveness with selected background and training, county situation, interest and attitude, work related and knowledge factors. The second section summarizes the findings regarding the association of agents' knowledge with the above mentioned groups of independent variables.

Associations between agent effectiveness and selected independent variables were determined by use of coefficients of correlation and multiple correlation and through crosstabulation analysis. Therefore, this section of the summary was divided into three sub-sections corresponding to the various methods used to analyze the data.

Results Regarding Agent Effectiveness

Testing of null hypotheses regarding the association between agent effectiveness and selected independent variables. The null hypotheses stated that there was no significant association between agent effectiveness rating scores and each independent variable studied. Eight of 25 factors analyzed for association with agent effectiveness were found to equal or exceed the .05 level of significance required to reject the null hypotheses. These factors were:

(1) Number of years in present position--dairy program effectiveness ratings of agents tended to decrease as years in Extension increased. Agents judged to be more effective in terms of their dairy program had fewer years of service in their present position.

(2) Number of years in Extension--the statistical analysis revealed that agents with fewer years in Extension had significantly higher dairy program effectiveness rating scores than agents with a greater number of years in Extension. Tenure of agents (both years in position and years in Extension) was inversely related to agents' dairy effectiveness rating in this study.

(3) Number of man-days dairy specialists spent in the county--agent effectiveness rating was positively associated with the amount of time specialists spent in the county. The most effective agents tended to involve dairy specialists more in conducting their county dairy programs.

(4) Number of man-days devoted to dairy work with group and mass media methods--agent effectiveness tended to increase as the amount of time agents spent on group and mass media teaching methods increased.

(5) Knowledge about dairying and related subject matter--the more effective agents scored higher on the multiple-choice test on dairying and related subject matter than the less effective agents.

(6) Income from dairying in the county where agent was assigned--agent effectiveness increased as the income from dairying in the county increased. Agents judged to be more effective were located in counties where income from dairying also was high.

(7) Number of man-days agent spent in the office--effectiveness rating of agents increased as time spent in the office increased. Agents judged to be more effective spent more time in their office than did the less effective agents.

(8) Number of contacts with dairymen--the more effective agents made more contacts with the dairymen in their counties than the less effective agents.

Therefore, the null hypotheses stating that there were no significant associations between agent dairy program effectiveness and years in present position, years in Extension, time spent by dairy specialists in their county, time spent in the office, time devoted to dairy work with group and mass media, scores on dairy test, income from dairying in the county, and number of contacts with dairymen were rejected.

All of the other independent variables studied except one (man-days agents were out-of-office) showed a positive correlation coefficient with agents' effectiveness ratings; however, all failed to reach the .05 level of significance required to reject the null hypotheses. The 17 independent variables which did not achieve the .05 level of significance were: (1) highest degree earned, (2) undergraduate grade point average, (3) hours undergraduate credits

in dairying, (4) hours of graduate credits in dairying, (5) percent of county farm income received from dairying, (6) number of dairy farms in the county, (7) number of Grade A dairy farms in county, (8) number of men Extension agents assigned to the county, (9) total score on interest and attitude scales, (10) total man-days agents devoted to dairy educational work, (11) man-days agents devoted to individual contact methods with dairy clientele, (12) number of individual contacts agents made with dairy clientele, (13) number of group contacts agents made with dairy clientele, (14) number of contacts per man-days agents devoted to dairy work, (15) total man-days worked by agent, (16) total man-days agents worked out-of-office, and (17) percent agents' in-office time was of total time worked.

Therefore, the null hypotheses stating that there was no significant association between agent dairy program effectiveness and each of the above 17 independent variables was not rejected.

Findings from the multiple correlation analysis between agent effectiveness ratings and two or more of the selected independent variables simultaneously. The percents of variation in agent effectiveness accounted for by all independent variables in each sub-group and the independent variables accounting for the largest percents of the variation in agent effectiveness within each sub-group of independent variables are given below:

(1) Background and training factors accounted for 52 percent of the variation in agents' effectiveness ratings. Years in present position, undergraduate grade point average and man-days dairy specialists spent in the county accounted for 90 percent of the variation in agent effectiveness accounted for by all seven factors in this sub-group. Years in present

position accounted for almost one-half of this variation in agent effectiveness and the relation was in inverse.

(2) Scores on the 12 sections of the multiple-choice test in dairying and related subject matter accounted for 42 percent of the variation in agent effectiveness ratings. Scores on the sections on dairy records, abnormal milk and building and farmstead planning accounted for approximately 86 percent of the variation in agent effectiveness accounted for by all 12 sections of the test.

(3) Work related factors accounted for the third largest percent (34) of variation in agent effectiveness ratings. Man-days dairy specialists spent in the county, man-days agent spent in-office and number of contacts with local dairymen accounted for approximately 80 percent of the variation in agent effectiveness accounted for by all 11 of the work related variables.

(4) County situation factors accounted for 16 percent of the variation in agent effectiveness ratings. Income from dairying accounted for approximately 80 percent of the variation in agent effectiveness accounted for by all five county situation factors.

(5) Scores on the five sections of the interest and attitude scale accounted for 12 percent of the variation in agent effectiveness ratings. Agents feelings concerning the receptiveness of local dairymen to Extension assistance and the relative importance of dairying in the county accounted for the largest percent of the variation in agents' effectiveness accounted for by all five factors in this sub-group.

The independent variables listed above by sub-groups accounted for the largest percent of the variation in agent effectiveness. Therefore, within each sub-group the above mentioned variables were the best predictors of agent effectiveness ratings.

Fourteen of the above mentioned independent variables were selected for further multiple regression analysis. The 14 variables were analyzed to determine which were the best predictors of agent dairy program effectiveness. The 14 variables accounted for 75 percent of the variation in agent effectiveness. Five of these variables accounted for 65 percent of the variation in effectiveness of the county Extension workers studied. The five factors and the percent of variation accounted for by each were: number of years in the present position, 23.9 percent; undergraduate grade point average, 14.3 percent; man-days devoted to dairy work with group and mass media methods, 11.5 percent; score on multiple-choice test, 5.6 percent; and number of men Extension agents assigned to the county, 9.5 percent.

The remaining nine variables accounted for only 10 percent of the variance in agent effectiveness.

Findings from the crosstabulation analysis with agent effectiveness ratings, years in Extension and other selected variables. The crosstabulation analysis provided a breakdown of the agents (below and above average for the group) on each of the selected factors. Findings from the breakdown of agents into three sub-groups based on years in Extension compared with other selected factors are presented below.

As shown previously in the section of the report on testing of null hypotheses, there was a relatively high negative correlation between agent effectiveness rating scores and tenure (i.e. both number of years in Extension and also number of years in present position). The crosstabulation analysis further showed that there were three distinct categories of years in Extension as regarded agent effectiveness rating scores. These categories, some observations and implications for each were as follows:

(1) The youngest category, from the standpoint of tenure, were those agents with from 5 to 12 years in Extension. All six of the agents in this category rated above average in effectiveness. This indicates that perhaps some common factor or factors such as proximity to college training, desire to prove self and/or other motivational factors were probably operating to influence agents' job performance during this stage of their career.

All six of the agents in this category had completed their Master's degrees. However, only one-half of these agents scored above average for the group on the multiple-choice test. Also, they were only average for the group on undergraduate grade point average.

(2) Fifteen of the 27 agents in the 13 to 31 years in Extension category had an effectiveness rating above the mean for the total group. Eight of these agents exceeded an effectiveness rating of 130 as compared to only one in the previous category. The agents with an effectiveness rating score over 130 had a range in tenure from 17 to 31 years, which suggests that agents who remain properly motivated may continue to improve in effectiveness for many years. Also, complacency and/or other factors probably begin to exert an important influence on the effectiveness of many agents during this stage in their careers. Fifty-five percent of the agents in this category had received a Master's degree. Likewise, about 55 percent scored above the group average on the test. Only 44 percent of these agents had above the group mean undergraduate grade point average.

(3) All eight agents in the 32 to 43 years in Extension category rated below average in effectiveness. Five of the eight agents with effectiveness ratings below 90 were in the 32 to 43 years in Extension category, which indicates that failure to maintain the necessary competencies, complacency, and/or other

factors probably had a strong influence on agent effectiveness during this stage of their career. All agents in this category made below the group average on the multiple-choice test in dairying and related subject matter. Yet, over 62 percent of these agents had above the group mean undergraduates grade point average. Only 25 percent had earned a Master's degree.

Results Regarding Agent Knowledge

Testing of null hypotheses regarding the association between agent knowledge in dairying and related subjects and the selected independent variables. The null hypotheses stated that there was no significant association between agent knowledge in dairying and related subjects and each independent variable studied. Only three out of the 25 factors analyzed for association with agents' test scores were found to equal or exceed the .05 level of significance required to reject the null hypotheses. The findings concerning these factors were:

(1) Number of years in Extension--test scores of agents decreased as years in Extension increased.

(2) Number of years in present position--agent test scores were inversely related to years in present position in Extension. Agent test scores tended to decrease as tenure (both years in Extension and years in position) increased.

(3) Effectiveness ratings of agents--agent test scores tended to increase as effectiveness ratings increased. Stated another way, the most effective agents made higher scores on the multiple-choice test in dairying and related subjects.

Therefore, the null hypotheses stating that there were no significant associations between agent knowledge in dairying and related subjects and years in Extension, years in present position and effectiveness ratings of agents were rejected.

All other independent variables studied except one (hours of undergraduate credits in dairying) were related positively to agent test scores. However, all failed to reach the .05 level of significance required to reject the null hypotheses. Therefore, all other null hypotheses tested for association with agent test scores were not rejected.

The 22 factors found not to reach the .05 level of significance were: (1) highest degree earned, (2) undergraduate grade point average, (3) hours of undergraduate credits in dairying, (4) hours of graduate credits in dairying, (5) man-days dairy specialists spent in county, (6) percent of farm income in county where assigned received from dairying, (7) number of dairy farms in the county, (8) number of Grade A dairy farms in county, (9) income from dairying, (10) number of men Extension agents assigned to the county, (11) total score on interest and attitude scale, (12) total man-days agents devoted to dairy educational work, (13) man-days agents devoted to individual contact methods with dairy clientele, (14) man-days agents devoted to group and mass media methods with dairymen, (15) total number of contacts made with dairymen, (16) number of individual contacts made by agents with dairymen, (17) number of group contacts made by agents with dairymen, (18) total man-days worked by agent, (19) total man-days worked by agent out-of-office, (20) number of contacts per man-days devoted to dairy work, (21) total man-days worked by agent in-office, and (22) percent in-office time was of total time worked by the agent.

Therefore, the null hypotheses stating that there was no significant association between agent knowledge in dairying and related subjects and each of the above 22 factors were not rejected.

Findings from the multiple correlation analysis on the correlation between agent knowledge and two or more of the selected independent variables simultaneously. The percent of variation in agent knowledge accounted for by all variables in each sub-group and the independent variables accounting for the largest percent of the variation in agent knowledge within each sub-group of factors were:

(1) Background and training factors accounted for 23 percent of the variation in agent test scores. Two factors, years in Extension and undergraduate grade point average, accounted for 18 percent of this variation. Years in Extension, accounted for almost 60 percent of the variation accounted for by all seven factors in this sub-group, was inversely related to agent scores on the multiple-choice test.

(2) Work related factors accounted for the second largest percent (21) of variation in agent test scores. Number of contacts with dairymen per man-day worked, man-days agents out-of-office, total number of contacts with dairy clientele, man-days devoted to individual contact methods with dairymen and man-days dairy specialists spent in the county accounted for 17.4 percent of the variation accounted for by all 12 work related factors.

(3) County situation factors accounted for 20 percent of the variation in agent test scores. Income from dairying in the county and number of men Extension agents assigned to the county accounted for 19 percent of this variation. The other three factors accounted for only 1 percent of the variation in agent test scores.

(4) Scores on the five sections of the interest and attitude scale accounted for 11 percent of the variation in agent scores on the multiple-choice test, job satisfaction and self-confidence accounted for 9 percent of this variation. However, each of these factors failed to reach the .05 level in the multiple correlation analysis.

The factors listed above accounted for the largest percent of the variation in agent test scores accounted for by all factors in each sub-group. Therefore, within each sub-group these factors appeared to be the best predictors of agent knowledge in dairying and related subjects.

Thirteen factors were selected on the basis of multiple regression analysis from the four sub-groups. These factors were analyzed to determine their association with agent test scores. All the factors accounted for 35 percent of the variation in agent test scores. The most accurate predictors of agent scores on the multiple-choice test were: (1) agent effectiveness rating scores, (2) years in present position, (3) income from dairying in the county, and (4) undergraduate grade point average.

IV. CONCLUSIONS

Based on the findings of this study the following conclusions have been drawn:

1. There was a positive relationship between agent effectiveness in conducting the county Extension dairy program and knowledge in dairying and related subject matter.

2. There was a negative relationship between agent effectiveness ratings and, also, scores on the dairy subject-matter test and to these agents' tenure (both years in present position and years in Extension).

3. There was a positive relationship between agent effectiveness and the amount of time these agents spent on group and mass media teaching methods.

4. There was a positive relationship between agent effectiveness and the amount of time dairy specialists spent in the county where the agent was assigned.

5. There was a positive relationship between agent effectiveness and the amount of time the agents spent in their offices.

6. The most accurate predictors of agent effectiveness ratings were number of years in present position (negatively associated), undergraduate grade point average, man-days devoted to dairy work with group and mass media methods, scores on multiple-choice test and numbers of men Extension agents assigned to the county.

7. The most accurate predictors of agent test scores were agent effectiveness ratings, years in present position (negative association), income from dairying in the county and undergraduate grade point average.

V. RECOMMENDATIONS

The recommendations listed below are based on the study and Extension situation.

1. The Tennessee Agricultural Extension Service should consider establishing and maintaining an up-to-date testing program in connection with the dairy and similar inservice training programs. This should help improve the quality of training as well as help evaluate competency levels of agents. Further, this should help those responsible for training make wiser decisions concerning training needs. It also should help them evaluate progress made toward training objectives.

2. District supervisors should stay informed (through observation and routine study of TEMIS print-outs) about the uses being made of subject matter specialists in each county, and also about allocations of county staff time through different teaching methods in the various work areas. This situational information should be reviewed regularly with county personnel in an attempt

to insure the most effective possible allocations of county staff and specialist time in the counties.

3. Since this study shows that the effectiveness of agents tended to decrease with tenure, every consideration should be given by Extension administrators and supervisors to find methods of preventing this from happening in the future and to reverse this trend.

The recently established procedure for allowing county Extension workers to move through progressive steps (Assistant Extension worker, Associate Extension worker, and Extension worker) in rank and title may provide a motivational tool to help prevent this leveling off in performance. In order that title changes may function as a motivator of high performance, careful consideration should be given to not making agents' title or rank changes automatic with tenure, but relating them, as stated in present policy, to the performance of the individual and also accompanied with appropriate financial rewards. Proper use of the merit reward system should help keep agents motivated and performing at more effective levels.

4. District supervisors should study the local situations carefully with county Extension staffs and with groups of county staff members with common problems and interest in search of appropriate and timely areas for program emphasis. Assistance in making and encouragement in carrying out appropriate and timely changes in program emphasis can help provide the needed challenge to motivate an agent to maintain or improve his effectiveness.

5. The University of Tennessee and Agricultural Extension Service Administration should continue to review retirement policies.

6. Further research should be encouraged to further clarify the

following conditions which were indicated in this study:

a. The negative association between tenure and agent effectiveness and test scores.

b. The relation of the leveling off or drop in agent dairy knowledge and effectiveness to motivation.

c. The use of testing as a tool for improving inservice training programs (testing before training starts, at the end and at different time periods after training).

d. Testing as a tool in motivating agents to remain alert during inservice training.

e. The relationship of time expenditure, via different teaching methods, and agent effectiveness.

f. The different methods of evaluating agent performance.

g. The use of different interest and attitude scales in determining the degree of agent motivation.

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